

CITY OF WORLEY (PWSNO 1280206)
SOURCE WATER ASSESSMENT REPORT

February 20, 2003



State of Idaho
Department of Environmental Quality

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Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This risk assessment is based on a land use inventory in the well recharge zone, sensitivity factors associated with how the well was constructed, and aquifer characteristics.

This report, *Source Water Assessment for the City of Worley*, describes the public drinking water well; the well recharge zone and potential contaminant sites located inside the recharge zone boundaries. This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this public water system. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

Two wells located in the city park supply drinking water for the City of Worley, Idaho. The wellheads are less than 100 feet apart and are considered a well field drawing from the same ground water source. The water system serves a population of about 500 people. A ground water susceptibility analysis DEQ conducted on December 6, 2002 ranked the wells moderately susceptible all classes of regulated contaminants.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

The City of Worley already has some important drinking water protections in place. The system is well run and in compliance with *Idaho Rules for Public Drinking Water Systems*. The city adopted a cross connection control ordinance on August 8, 2000 to prevent back siphonage of contaminants into the water system. Most businesses in the town have been inspected and have installed backflow prevention devices where needed.

Voluntary measures Worley should consider include covering the well heads to prevent unauthorized access and writing an emergency response plan. Drinking water protection partnerships with landowners in the recharge zone, and governmental agencies may also be useful. For instance ground water protection activities related to agriculture, an important land use in the Worley well field recharge zone, could be coordinated through the tribe, the state department of agriculture or the Natural Resource Conservation Service.

Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. For assistance in developing protection strategies, please contact your regional Department of Environmental Quality office or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR CITY OF WORLEY

Section 1. Introduction - Basis for Assessment

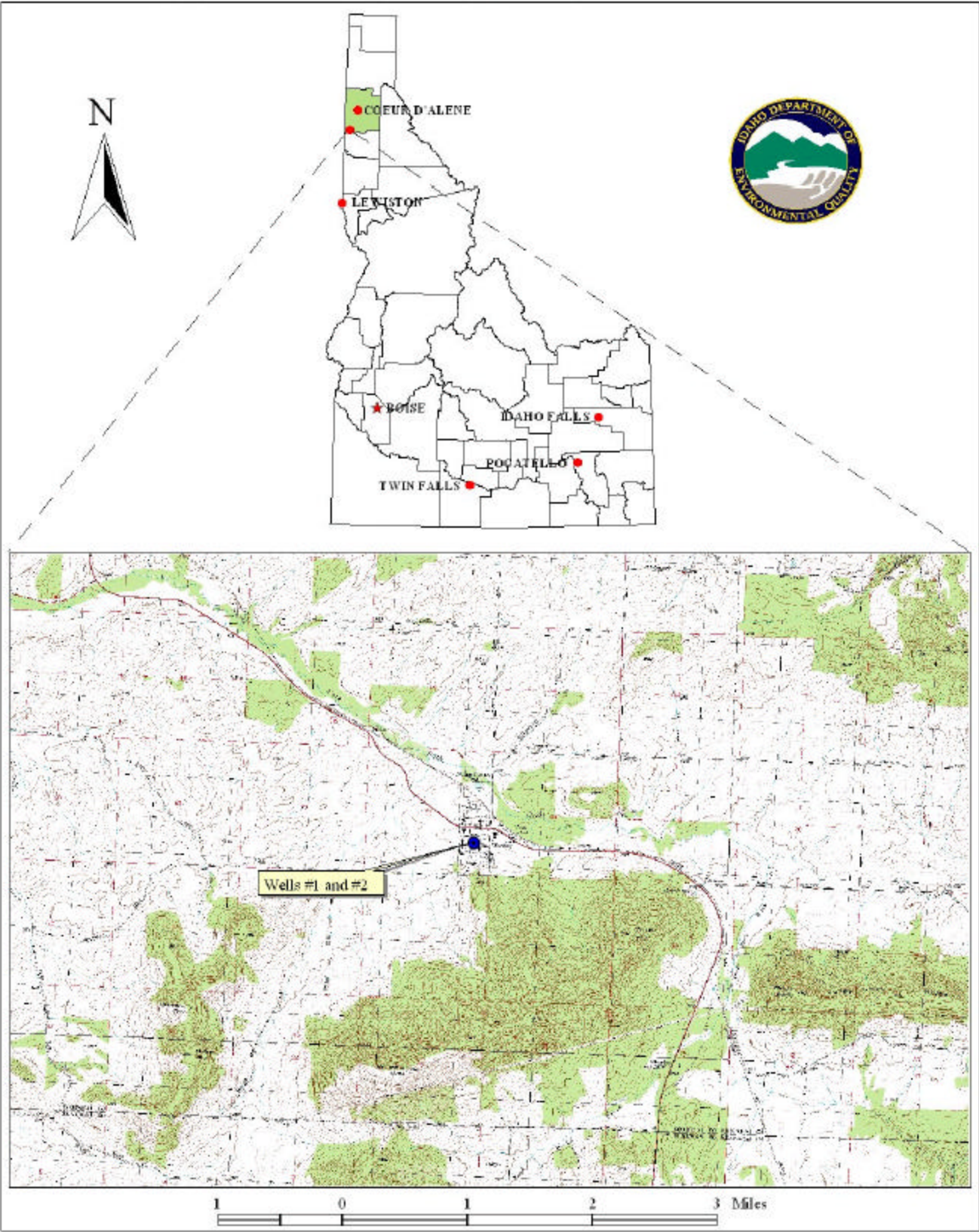
The following sections contain information necessary for understanding how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and an inventory of significant potential sources of contamination identified within that area are included. The ground water Susceptibility Analysis Worksheet used to develop this assessment is attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess every public drinking water source in Idaho for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. These assessments are based on a land use inventory inside the delineated recharge zones, sensitivity factors associated with how the well is constructed, and aquifer characteristics. The state must complete more than 2900 assessments by May of 2003. Because resources and the time available to accomplish assessments are limited, an in-depth, site-specific investigation for every public water system is not possible.

The results of the source water assessment should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system. The ultimate goal of this assessment is to provide data to local communities for developing a protection strategy for their drinking water supply. The Idaho Department of Environmental Quality recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Figure 1. Geographic Location of the City of Worley Wells



Section 2. Preparing for the Assessment

Defining the Zones of Contribution - Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the well recharge area into time of travel zones indicating the number of years necessary for a particle of water flowing through the aquifer to reach a well. DEQ used a refined computer model approved by the EPA to determine the extent of the recharge zone and to divide it into time of travel (TOT) zones. The computer model used data assimilated by DEQ from a variety of sources including local well logs.

The City of Worley water system has 240 service connections supplying drinking water to 500 customers. The community is located on Highway 95 in the southern part of Kootenai County Idaho. (Figure 1). A well field comprised of two wells located in the Worley City Park is the city's source of water. Well #1 is 204 feet deep and produces an estimated 150 gallons per minute. Well #2, drilled in 1999, is 242 feet deep and can produce 300 gallons per minute.

The recharge zone delineated for the City of Worley wellfield is an elliptical area encompassing about 1800 acres divided into 0 to 3, 3 to 6 and 6 to 10 year time of travel zones (Figure 2). The entire City of Worley lies over the 0-3 year time of travel zone. Well logs for the city and other area wells were used to estimate the extent of the basalt-producing zone. Because the City of Worley is near the top of a watershed, the upgradient no flow boundaries for the ground water model were set at the watershed boundary. Of the 5 local area well logs, 2 had specific capacity tests which gave the following aquifer parameters: hydraulic conductivity varied from 9 to 26 feet per day and the aquifer thickness varied from 20 to 30 feet. The porosity was set at 0.1 and recharge was set at approximately 1 inch per year to calibrate the model to the local test point. A downgradient constant head boundary was set at Rock Creek. The simulations showed that 6-, and 10-year time of travel delineation encompass an area smaller than the entire watershed.

Identifying Potential Sources of Contamination

The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. Inventories for all public water systems in Idaho were conducted in two-phases. The first phase involved identifying and documenting potential contaminant sources within a system's source water assessment area through the use of computer databases and Geographic Information System maps developed by DEQ. Maps showing the delineations and tables summarizing the results of the database search were then sent to system operators for review and correction during the second or enhanced phase of the inventory process. Information from the public water system file was also incorporated into the potential contaminant inventory. Jeff Bloomsburg, the city water system operator, reviewed the map and inventory for Worley.

Figure 2, *City of Worley Delineation and Potential Contaminant Inventory* on page 7 of this report shows the location of the wellfield, the zone of contribution DEQ delineated for it, and potential contaminant sites in the vicinity. Outside of the town land use is agricultural and undeveloped forest.

Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. When a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation.

Section 3. Susceptibility Analysis

The susceptibility to contamination of all ground water sources in Idaho is being assessed on the following factors:

- physical integrity of the well,
- hydrologic characteristics,
- land use characteristics, and potentially significant contaminant sources
- historic water quality

The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. A high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking. The Susceptibility Analysis Worksheet for the City of Worley well, Attachment A, shows in detail how the well was scored.

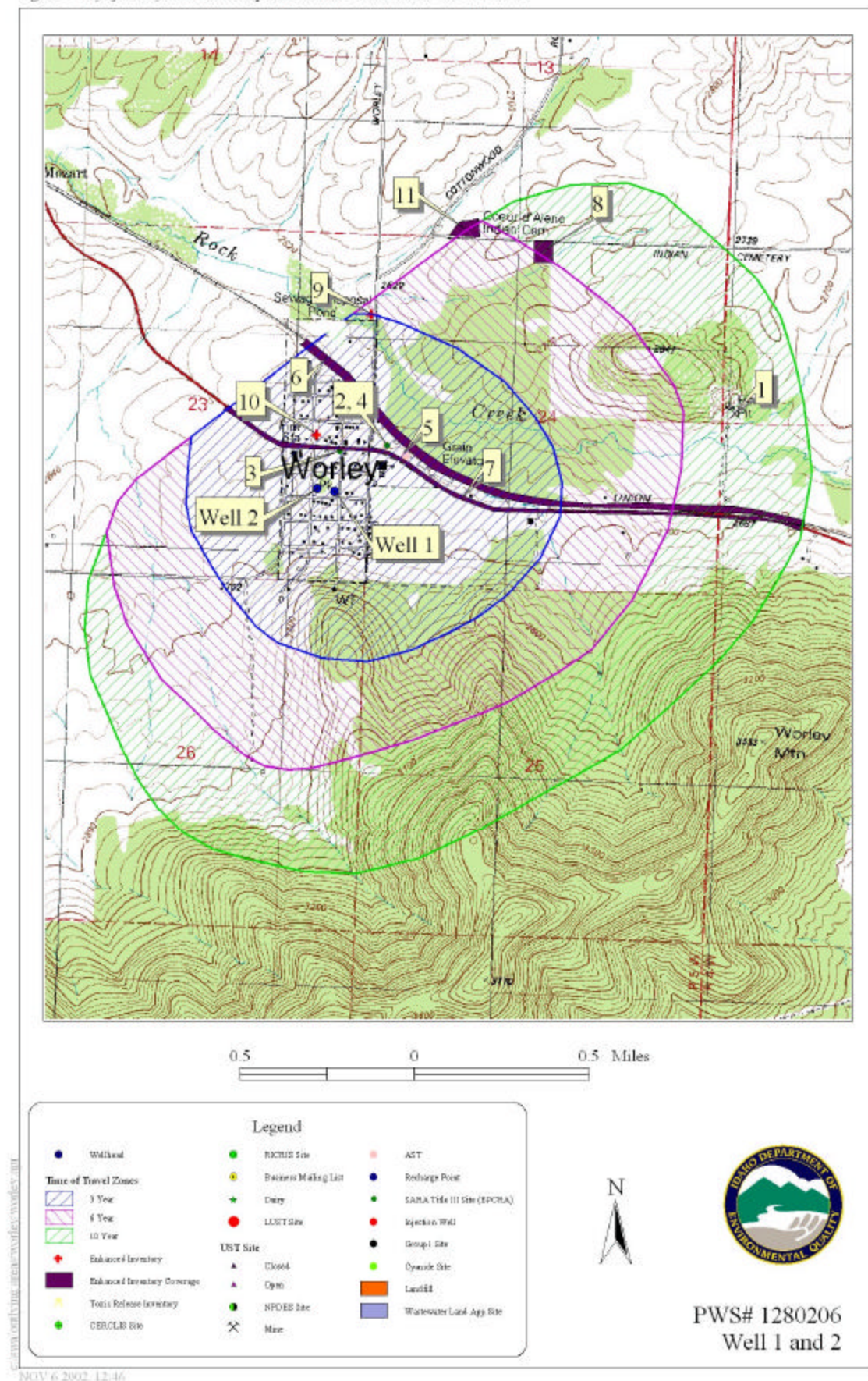
Well Construction

Well construction directly affects the ability of the wells to protect the aquifer from contaminants. Lower scores imply a well that can better protect the water. This portion of the susceptibility analysis relies on information from individual well logs and from the most recent sanitary survey of the public water system. The well logs are on file with DEQ. The water system was in compliance with *Idaho Rules for Public Drinking Water Systems* when it was inspected in September 2000. No deficiencies were noted in wellhead and surface seal maintenance.

Well #1 was drilled in August 1977. It is cased with steel from the surface to a depth of 152 feet. The bottom 52 feet of the well bore is free standing in basalt. Both the casing and 25-foot well seal extend through a clay seam at the surface. The well log omits information about static water level and depths where water was encountered during drilling. It is not possible to determine from the available information whether the well meets current Idaho Department of Water Resources construction standards.

Well #2 was drilled in September 1999 to a total depth of 242 feet. Extending 2 feet above grade the 8-inch steel casing penetrates 11 feet of clay near the surface then 209 feet of mostly fractured basalt. Screens extend from the bottom of the casing to 240 feet. The surface seal is 55 feet deep, terminating in fractured material. Static water level is 90 feet below ground.

Figure 2. City of Worley Definition Map and Potential Contaminant Source Locations



Hydrologic Sensitivity

Hydrologic sensitivity scores reflect natural geologic conditions at the well site and in the recharge zone. Information for this part of the analysis is derived from individual well logs and from the soil drainage classification inside the delineation boundaries. The City of Worley wells scored 4 points out of 6 points possible in the hydrologic sensitivity portion of the susceptibility analysis.

Soils in the recharge zone generally are classed as poorly to moderately well drained. . Soils that drain slowly are deemed more protective of ground water than quickly draining soils. The well log for Well #1 reports basalt, "basalt with soft spots" and basalt mixed with clay in the soil column. The log for Well #2 shows extensive fracturing. The clay interbeds in the formation have a cumulative thickness of less than 50 feet.

Potential Contaminant Sources and Land Use

Figure 2, *City of Worley Delineation and Potential Contaminant Inventory* on page 7 shows the location of the City of Worley wellfield, and the recharge zone DEQ delineated for it. Land use inside the delineation boundaries is mostly urban in the 0 to 3-year time of travel zone with cropland and undeveloped forest predominating in the zones further from the wells. Highway 95 and a rail line, counted together as a major transportation corridor, cross all of the delineated time of travel zones. The table below lists known potential contaminant sites inside the well recharge area. Numbers on the table correspond to numbers on the map.

Table 1. City of Worley Potential Contaminant Inventory

| Map ID | Time of Travel Zone | Description | Associated Potential Contaminants | Source of Information |
|---------|---------------------|----------------------------|-----------------------------------|-----------------------------|
| 1 | 6-10 | Gravel Pit | Illegal Dumping | Mine Database |
| 2, 4, 5 | 0-3 | Gas Station, Farm Supplies | *SOC, VOC, IOC | SARA Database, AST Database |
| 3 | 0-3 | Auto Repair | VOC, IOC | SARA Database |
| 6 | All | Railroad | SOC, VOC, IOC, Microbial | USGS Map |
| 7 | All | Highway 95 | SOC, VOC, IOC, Microbial | USGS Map |
| 8 | 3-6, 6-10 | Historic Landfill | IOC, SOC, VOC | Enhanced Inventory |
| 9 | 3-6 | Transfer Station | IOC, SOC, VOC | Enhanced Inventory |
| 10 | 0-3 | Removed AST | SOC, VOC | Enhanced Inventory |
| 11 | 3-6 | Cemetery | IOC, VOC | Enhanced Inventory |

* IOC = Inorganic Chemicals; SOC = Synthetic Organic Chemicals; VOC = Volatile Organic Chemicals

Historic Water Quality

The City of Worley has had few water quality problems other than detection of 4.1 µg/l of the plasticizer Di(2-ethylhexyl) phthalate in a sample tested in December 1998. The Maximum Contaminant Level for the chemical is 0.2 µg/l. When the water was tested again for synthetic organic contaminants in September 2000, the concentration of Di(2-ethylhexyl) phthalate was below the detection limit. Flowing through a hose connected to the sample tap most likely contaminated water for the sample. The city adheres to a comprehensive water quality testing schedule. Chemical test results are listed on the table below. Worley monitors monthly for total coliform bacteria contamination, and chlorinates its water prior to distribution.

Table 2. City of Worley Chemical Sampling Results

| Primary IOC Contaminants (Mandatory Tests) | | | | | | | |
|---|----------------------------|----------------|--------------------------------------|-------------|---------------------------------|-------------------------|----------------------|
| Contaminant | MCL (mg/l) | Results (mg/l) | Dates | Contaminant | MCL (mg/l) | Results (mg/l) | Dates |
| Antimony | 0.006 | ND | 12/19/95 to 12/12/01 | Nitrate | 10 | ND to 1.94 | 1/15/81 to 12/12/01 |
| Arsenic | 0.01 | ND | 11/4/80 to 12/12/01 | Nickel | N/A | ND | 12/19/95 to 12/12/01 |
| Barium | 2 | ND to 0.1 | 11/4/80 to 12/12/01 | Selenium | 0.05 | ND | 11/4/80 to 12/12/01 |
| Beryllium | 0.004 | ND | 12/19/95 to 12/12/01 | Sodium | N/A | 10.3 to 13.53 | 1/15/81 to 12/12/01 |
| Cadmium | 0.005 | ND | 11/4/80 to 12/12/01 | Thallium | 0.002 | ND | 12/19/95 to 12/12/01 |
| Chromium | 0.1 | ND to 0.002 | 11/4/80 to 12/12/01 | Cyanide | 0.02 | ND | 12/19/95 |
| Mercury | 0.002 | ND 0.0035 | 1/15/81 to 12/12/02 11/4/80 | Fluoride | 4.0 | 0.25 to 0.6 | 1/15/81 to 12/12.01 |
| Secondary and Other IOC Contaminants (Optional Tests) | | | | | | | |
| Contaminant | Recommended Maximum (mg/l) | | Results (mg/l) | | | Dates | |
| Sulfate | | | 1.7 to 2.2 | | | 11/30/1994 to 12/11/200 | |
| Manganese | | | 0.01 to 0.033 | | | 11/4/80 to 8/30/94 | |
| Iron | | | 0.27 to 1.0 | | | 11/4/80 to 8/30/94 | |
| Zinc | | | 0.04 | | | 1/15/81 | |
| Regulated and Unregulated Synthetic Organic Chemicals | | | | | | | |
| Contaminant | | | Results | | Dates | | |
| 29 Regulated and 13 Unregulated Synthetic Organic Compounds | | | None Detected Except As Listed Below | | 11/23/94 to 11/06/01 | | |
| Di(2-Ethylhexyl) - Phthalate (MCL =0.2 µg/l) | | | 4.1 µg/l | | 12/2/98 | | |
| Regulated and Unregulated Volatile Organic Chemicals | | | | | | | |
| Contaminant | | | Results | | Dates | | |
| 21 Regulated And 16 Unregulated Volatile Organic Compounds | | | None Detected | | 11/30/94 to 12/15/98 | | |
| Radiological Contaminants | | | | | | | |
| Contaminant | | MCL | Results | | Dates | | |
| Gross Alpha, Including Ra & U | | 15 pC/l | 0.6 to 0.9 pC/l | | 3/30/81 to 11/23/99 | | |
| Gross Beta Particle Activity | | 4 mrem/year | 2.3 to 4.0 4.4 | | 3/30/81 to 11/23/99 12/13/90 | | |

Final Susceptibility Ranking

The City of Worley wellfield is moderately susceptible to all classes of regulated contaminants. Well construction features, risks associated with local geology, and the potential contaminant inventory contributed about equally to the final susceptibility scores for the wells. The complete susceptibility analysis worksheets for the City of Worley wells can be found in Attachment A. Totals for system construction and hydrologic sensitivity along with the cumulative scores for land use and potential contaminant sources are summarized on Table 3.

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
- 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

The final ranking categories are as follows:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility

Table 3. Summary of City of Worley Susceptibility Evaluation

| Cumulative Susceptibility Scores | | | | | | |
|--|----------------------------|-------------------------------|------------------------------|------------------|------------|------------------|
| Well Name | System Construction | Hydrologic Sensitivity | Contaminant Inventory | | | |
| | | | IOC | VOC | SOC | Microbial |
| Well #1 | 2 | 4 | 14 | 20 | 20 | 4 |
| Well #2 | 0 | 4 | 14 | 20 | 20 | 4 |
| Final Susceptibility Scores/Ranking | | | | | | |
| | IOC | VOC | SOC | Microbial | | |
| Well #1 | 9/Moderate | 10/Moderate | 10/Moderate | 8/Moderate | | |
| Well #2 | 7/Moderate | 8/Moderate | 8/Moderate | 6/Moderate | | |

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Because it operates and maintains the wells in compliance with the *Idaho Rules for Public Drinking Water Systems*, The City of Worley already has some significant drinking water protections in place. Necessary improvements noted during the last sanitary survey dealt mostly with prevention of microbial contamination of the reservoirs. The city has developed a cross connection control plan to prevent siphonage of contaminants into the water distribution system. Inspections are carried out routinely.

With the wells located in the city park, the City should consider covering the well heads to prevent unauthorized access. It is also important to periodically remind the park maintenance staff to keep fertilizer, weed killer and so on at least 50 feet from the well heads. The ground around the wellheads should be sloped so rainwater and runoff does not puddle in the sanitary setback zone. Another voluntary measure every system should implement is development of a water emergency response plan. There is a simple fill-in-the-blanks form available on the DEQ website to guide systems through the process.

Drinking water protection partnerships with landowners in the recharge zone, and governmental agencies may also be useful. For instance ground water protection activities related to agriculture, an important land use in the Worley well field recharge zone, could be coordinated through the tribe, the state department of agriculture or the Natural Resource Conservation Service.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

Assistance

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the IDEQ office for preliminary review and comments.

Coeur d'Alene Regional DEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

Website: www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper of the Idaho Rural Water Association (208) 343-7001 for assistance with drinking water protection strategies.

References Cited

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."

Idaho Department of Agriculture, 1998. Unpublished Data.

Idaho Department of Environmental Quality, 1997. Design Standards for Public Drinking Water Systems. IDAPA 58.01.08.550.01.

Idaho Department of Water Resources, 1993. Administrative Rules of the Idaho Water Resource Board: Well Construction Standards Rules. IDAPA 37.03.09.

Attachment A

City of Worley Susceptibility Analysis Worksheets

Ground Water Susceptibility

Public Water System Name : **WORLEY CITY OF**
 Public Water System Number : **1280206**

Source: **WELL 1**
 12/6/02 1:41:02 PM

| 1. System Construction | | SCORE | | | |
|---|---|--------------|-----------|-----------|-----------|
| Drill Date | 8/22/77 | | | | |
| Driller Log Available | YES | | | | |
| Sanitary Survey (if yes, indicate date of last survey) | YES 2000 | | | | |
| Well meets IDWR construction standards | NO | 1 | | | |
| Wellhead and surface seal maintained | YES | 0 | | | |
| Casing and annular seal extend to low permeability unit | YES | 0 | | | |
| Highest production 100 feet below static water level | NO | 1 | | | |
| Well located outside the 100 year flood plain | YES | 0 | | | |
| Total System Construction Score | | 2 | | | |
| 2. Hydrologic Sensitivity | | | | | |
| Soils are poorly to moderately drained | YES | 0 | | | |
| Vadose zone composed of gravel, fractured rock or unknown | FRACTURED ROCK | 1 | | | |
| Depth to first water > 300 feet | NO | 1 | | | |
| Aquitard present with > 50 feet cumulative thickness | NO | 2 | | | |
| Total Hydrologic Score | | 4 | | | |
| 3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback) | | IOC | VOC | SOC | Microbial |
| | | Score | Score | Score | Score |
| Land Use Zone 1A | DRYLAND AGRICULTURE | 1 | 1 | 1 | 1 |
| Farm chemical use high | NO | 0 | 0 | 0 | |
| IOC, VOC, SOC, or Microbial sources in Zone 1A | NO | NO | NO | NO | NO |
| Total Potential Contaminant Source/Land Use Score - Zone 1A | | 1 | 1 | 1 | 1 |
| Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT) | | | | | |
| Contaminant sources present (Number of Sources) | YES | 2 | 4 | 4 | 1 |
| (Score = # Sources X 2) 8 Points Maximum | | 4 | 8 | 8 | 2 |
| Sources of Class II or III leacheable contaminants or Microbials | YES | 2 | 4 | 4 | |
| 4 Points Maximum | | 2 | 4 | 4 | |
| Zone 1B contains or intercepts a Group 1 Area | NO | 0 | 0 | 0 | 0 |
| Land use Zone 1B | 25 to 50% Non-Irrigated Agricultural Land | 1 | 1 | 1 | 1 |
| Total Potential Contaminant Source / Land Use Score - Zone 1B | | 7 | 13 | 13 | 3 |
| Potential Contaminant / Land Use - ZONE II (6 YR. TOT) | | | | | |
| Contaminant Sources Present | YES | 2 | 2 | 2 | |
| Sources of Class II or III leacheable contaminants or Microbials | YES | 1 | 1 | 1 | |
| Land Use Zone II | 25 to 50% Agricultural Land | 1 | 1 | 1 | |
| Potential Contaminant Source / Land Use Score - Zone II | | 4 | 4 | 4 | 0 |
| Potential Contaminant / Land Use - ZONE III (10 YR. TOT) | | | | | |
| Contaminant Source Present | YES | 1 | 1 | 1 | |
| Sources of Class II or III leacheable contaminants or Microbials | YES | 1 | 1 | 1 | |
| Do irrigated agricultural lands occupy > 50% of Zone | NO | 0 | 0 | 0 | |
| Total Potential Contaminant Source / Land Use Score - Zone III | | 2 | 2 | 2 | 0 |
| Cumulative Potential Contaminant / Land Use Score | | 14 | 20 | 20 | 4 |
| 4. Final Susceptibility Source Score | | 9 | 10 | 10 | 8 |
| 5. Final Well Ranking | | Moderate | Moderate | Moderate | Moderate |

Ground Water Susceptibility

Public Water System Name : **WORLEY CITY OF**
 Public Water System Number : **1280206**

Source: **WELL 2**
 2/20/02 12:45 PM

| 1. System Construction | | SCORE | | | |
|---|---|--------------|--------------|--------------|--------------------|
| Drill Date | 8/27/99 | | | | |
| Driller Log Available | YES | | | | |
| Sanitary Survey (if yes, indicate date of last survey) | YES 2000 | | | | |
| Well meets IDWR construction standards | YES | 0 | | | |
| Wellhead and surface seal maintained | YES | 0 | | | |
| Casing and annular seal extend to low permeability unit | YES | 0 | | | |
| Highest production 100 feet below static water level | YES | 0 | | | |
| Well located outside the 100 year flood plain | YES | 0 | | | |
| Total System Construction Score | | 0 | | | |
| 2. Hydrologic Sensitivity | | | | | |
| Soils are poorly to moderately drained | YES | 0 | | | |
| Vadose zone composed of gravel, fractured rock or unknown | FRACTURED ROCK | 1 | | | |
| Depth to first water > 300 feet | NO | 1 | | | |
| Aquitard present with > 50 feet cumulative thickness | NO | 2 | | | |
| Total Hydrologic Score | | 4 | | | |
| 3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback) | | IOC Score | VOC Score | SOC Score | Microbial Score |
| Land Use Zone 1A | DRYLAND AGRICULTURE | 1 | 1 | 1 | 1 |
| Farm chemical use high | NO | 0 | 0 | 0 | |
| IOC, VOC, SOC, or Microbial sources in Zone 1A | NO | NO | NO | NO | NO |
| Total Potential Contaminant Source/Land Use Score - Zone 1A | | 1 | 1 | 1 | 1 |
| Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT) | | | | | |
| Contaminant sources present (Number of Sources) | YES | 2 | 4 | 4 | 1 |
| (Score = # Sources X 2) 8 Points Maximum | | 4 | 8 | 8 | 2 |
| Sources of Class II or III leacheable contaminants or Microbials | YES | 2 | 4 | 4 | |
| 4 Points Maximum | | 2 | 4 | 4 | |
| Zone 1B contains or intercepts a Group 1 Area | NO | 0 | 0 | 0 | 0 |
| Land use Zone 1B | 25 to 50% Non-Irrigated Agricultural Land | 1 | 1 | 1 | 1 |
| Total Potential Contaminant Source / Land Use Score - Zone 1B | | 7 | 13 | 13 | 3 |
| Potential Contaminant / Land Use - ZONE II (6 YR. TOT) | | | | | |
| Contaminant Sources Present | YES | 2 | 2 | 2 | |
| Sources of Class II or III leacheable contaminants or Microbials | YES | 1 | 1 | 1 | |
| Land Use Zone II | 25 to 50% Agricultural Land | 1 | 1 | 1 | |
| Potential Contaminant Source / Land Use Score - Zone II | | 4 | 4 | 4 | 0 |
| Potential Contaminant / Land Use - ZONE III (10 YR. TOT) | | | | | |
| Contaminant Source Present | YES | 1 | 1 | 1 | |
| Sources of Class II or III leacheable contaminants or Microbials | YES | 1 | 1 | 1 | |
| Do irrigated agricultural lands occupy > 50% of Zone | NO | 0 | 0 | 0 | |
| Total Potential Contaminant Source / Land Use Score - Zone III | | 2 | 2 | 2 | 0 |
| Cumulative Potential Contaminant / Land Use Score | | 14 | 20 | 20 | 4 |
| 4. Final Susceptibility Source Score | | 7 | 8 | 8 | 6 |
| 5. Final Well Ranking | | Moderate | Moderate | Moderate | Moderate |

POTENTIAL CONTAMINANT INVENTORY

LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ? Superfund? is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.



Mission: To protect human health and preserve the quality of Idaho's air, land, and water for use and enjoyment today and in the future.

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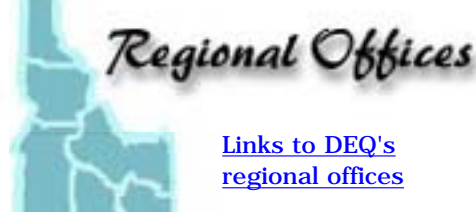
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